10/622,007

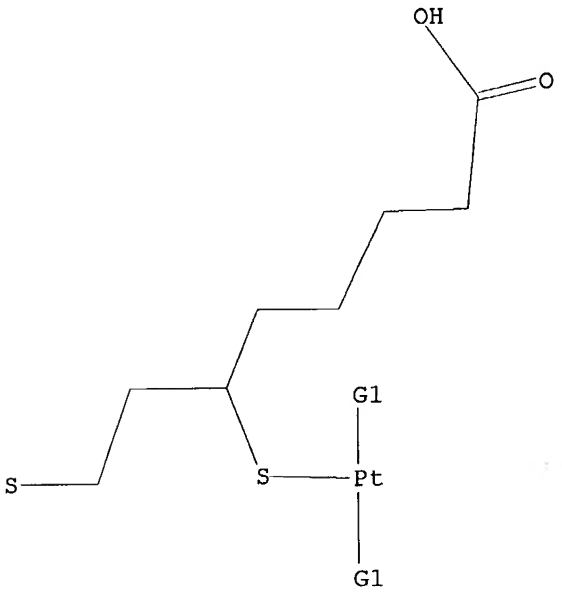
L Number	Hits	Search Text	DB	Time stamp
4	2303	lipoic adj acid	USPAT; US-PGPUB; EPO; JPO	2004/09/16 18:48
5	324	(lipoic adj acid) and platinum	USPAT; US-PGPUB; EPO; JPO	2004/09/16 18:48
6	1152	"l6" and cancer	USPAT; US-PGPUB; EPO; JPO	2004/09/16 18:48
7	0	((lipoic adj acid) and platinum) and cnacer	USPAT; US-PGPUB; EPO; JPO	2004/09/16 18:48
8	237	((lipoic adj acid) and platinum) and cancer	USPAT; US-PGPUB; EPO; JPO	2004/09/16 18:49
9	1	(((lipoic adj acid) and platinum) and cancer) and polynuclear	USPAT; US-PGPUB; EPO; JPO	2004/09/16 18:49

10/622,007

(FILE 'HOME' ENTERED AT 16:04:02 ON 16 SEP 2004)

FILE 'REGISTRY' ENTERED AT 16:04:15 ON 16 SEP 2004
L1 STRUCTURE UPLOADED

=> d l1
L1 HAS NO ANSWERS
L1 STR



G1 Cl,OH,NH3

Structure attributes must be viewed using STN Express query preparation.

=> s l1
SAMPLE SEARCH INITIATED 16:05:03 FILE 'REGISTRY'
SAMPLE SCREEN SEARCH COMPLETED - 0 TO ITERATE

100.0% PROCESSED 0 ITERATIONS 0 ANSWERS
SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS: ONLINE **COMPLETE**
BATCH **COMPLETE**
PROJECTED ITERATIONS: 0 TO 0
PROJECTED ANSWERS: 0 TO 0

L2 0 SEA SSS SAM L1

=> s l1 full
FULL SEARCH INITIATED 16:05:09 FILE 'REGISTRY'
FULL SCREEN SEARCH COMPLETED - 20 TO ITERATE

100.0% PROCESSED 20 ITERATIONS 0 ANSWERS
SEARCH TIME: 00.00.01

L3 0 SEA SSS FUL L1

=> fil caplus
COST IN U.S. DOLLARS SINCE FILE TOTAL

```
                                                    ENTRY     SESSION
FULL ESTIMATED COST                                 155.84      156.05

FILE 'CAPLUS' ENTERED AT 16:05:22 ON 16 SEP 2004
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
COPYRIGHT (C) 2004 AMERICAN CHEMICAL SOCIETY (ACS)
```



```
FILE COVERS 1907 - 16 Sep 2004  VOL 141 ISS 12
FILE LAST UPDATED: 15 Sep 2004  (20040915/ED)

  This file contains CAS Registry Numbers for easy and accurate
  substance identification.


=> s lipoic acid and platinum
          3162 LIPOIC
       3869612 ACID
          3114 LIPOIC ACID
                 (LIPOIC(W)ACID)
        182692 PLATINUM
L4          11 LIPOIC ACID AND PLATINUM

=> d 1-11 bib abs

L4   ANSWER 1 OF 11  CAPLUS  COPYRIGHT 2004 ACS on STN
AN   2004:120684  CAPLUS
DN   140:187383
TI   Lipid-drug complexes in reversed liquid and liquid crystalline phases
IN   Anderson, David M.
PA   Lyotropic Therapeutics, Inc., USA
SO   PCT Int. Appl., 51 pp.
     CODEN: PIXXD2
DT   Patent
LA   English
FAN.CNT 1
     PATENT NO.          KIND   DATE        APPLICATION NO.        DATE
     ---------------     ----   --------    --------------------   --------
PI   WO 2004012680        A2    20040212    WO 2003-US24512        20030806
     WO 2004012680        A3    20040610
     WO 2004012680        B1    20040805
         W:  AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,
             CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,
             GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR,
             LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM,
             PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN,
             TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG,
             KZ, MD, RU, TJ
         RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG,
             CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC,
             NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ,
```

GW, ML, MR, NE, SN, TD, TG

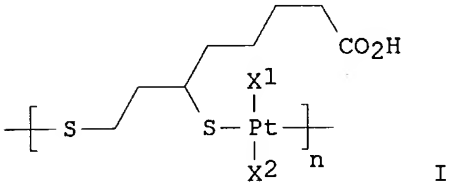
	US 2004156816	A1	20040812	US 2003-635019	20030806
PRAI	US 2002-401011P	P	20020806		

AB A pharmaceutical is formulated to enable enhanced delivery across membrane barriers, permit solubilization, protect compds. from deactivation by thiol containing compds. in the body, and allow retention of the drug during transport to a desired site of activity. The pharmaceutical includes a complex of two moieties where at least one is pharmaceutically active and is larger than a single atom in size, and the second moiety, when combined with a cationic or anionic counterion forms either a pharmaceutically acceptable anionic or cationic surfactant or a pharmaceutically acceptable salt that has an octanol water partition coefficient of greater than about 100. A composition contained cisplatin in dimethylacetamide and Epikuron 105.

L4 ANSWER 2 OF 11 CAPLUS COPYRIGHT 2004 ACS on STN
AN 2004:60263 CAPLUS
DN 140:121563
TI Preparation of polynuclear **platinum lipoic acid** compounds as anticancer agents
IN Lal, Manjari; Palepu, Nagesh
PA Sonus Pharmaceuticals, Inc., USA
SO PCT Int. Appl., 39 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2004006859	A2	20040122	WO 2003-US22221	20030716
	WO 2004006859	A3	20040701		
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU				
	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
	US 2004092585	A1	20040513	US 2003-622007	20030716
PRAI	US 2002-396299P	P	20020716		

GI



I

AB The preparation is described for cisplatin tocopherol, carboplatin folic acid and polynuclear **platinum lipoic acid** complexes for use as anticancer agents. Methods are claimed for using the **platinum** compds., either alone or in combination with at least one addnl. therapeutic agent, in the prophylaxis or treatment of proliferative diseases. Thus, polynuclear **platinum lipoic**

acid derivative complexes (I; X1 and X2 = chloro, hydroxy or amino, n = 10-20) were prepared and.

L4 ANSWER 3 OF 11 CAPLUS COPYRIGHT 2004 ACS on STN
AN 2003:984085 CAPLUS
DN 140:349530
TI Functionalized derivatives of β-hydroxydithiocinnamic acids as ligands. Crystal structure of 4'-hydroxy-β-hydroxydithiocinnamic acid methyl ester
AU Schubert, Karsten; Saumweber, Rupert; Goerls, Helmar; Weigand, Wolfgang
CS Inst. Anorganische und Anal. Chem., Friedrich-Schiller-Univ. Jena, Jena, D-07743, Germany
SO Zeitschrift fuer Anorganische und Allgemeine Chemie (2003), 629(12-13), 2091-2096
CODEN: ZAACAB; ISSN: 0044-2313
PB Wiley-VCH Verlag GmbH & Co. KGaA
DT Journal
LA German
AB Silyl-protected 4'-hydroxyacetophenone reacted with CS2 and MeI using K tert-butylate as a base to give silyl-substituted 4'-hydroxy-β-hydroxydithiocinnamic acid Me ester. Mol. structure of the deprotected ester (I) was determined by x-ray anal. (monoclinic, a 9.3236(2), b 5.4082(1), c 20.4968(5) Å, β 100.017(1)°, Z = 4, dc = 1.477, 1869 observed reflections with Fo > 4σ(Fo), R1 = 0.032, wR2 = 0.083). Esterification of I with DL-α- **lipoic acid** gave 4'-(1,2-dithiolane-3-pentanoyl)-β-hydroxydithiocinnamic acid Me ester (II). Ni(II), Pd(II) and Pt(II) complexes of the ligand II were synthesized.
RE.CNT 24 THERE ARE 24 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 4 OF 11 CAPLUS COPYRIGHT 2004 ACS on STN
AN 2002:756358 CAPLUS
DN 138:52125
TI Development of a new assay for the screening of hypochlorous acid scavengers based on reversed-phase high-performance liquid chromatography
AU Gatto, Maria Teresa; Firuzi, Omidreza; Agostino, Roberta; Grippa, Eleonora; Borso, Angela; Spinelli, Francesca; Pavan, Lucia; Petrolati, Marzia; Petrucci, Rita; Marrosu, Giancarlo; Saso, Luciano
CS Dipartimento di Farmacologia delle Sostanze Naturali e Fisiologia Generale Universita di Roma "La Sapienza", Rome, 00185, Italy
SO Biomedical Chromatography (2002), 16(6), 404-411
CODEN: BICHE2; ISSN: 0269-3879
PB John Wiley & Sons Ltd.
DT Journal
LA English
AB A new assay for the screening of hypochlorite/hypochlorous acid (XOCl) scavengers, based on the reversed-phase high performance liquid chromatog. anal. of human serum albumin (HSA, 0.2% in 100 mM sodium phosphate, pH 7), before and after oxidation by XOCl (1.6 mM), was developed. XOCl induced a significant decrease of the area under the chromatog. peak of HSA at 280 nm due to the oxidation of the aromatic amino acids tryptophan and tyrosine, as suggested by the literature and by the chromatog. analyses and the electrochem. study performed here. The assay was validated by testing known XOCl scavengers such as ascorbic acid, cysteine, glutathione, S-methylglutathione and α- **lipoic acid** and other antioxidants such as carnosine and chlorogenic acid, which inhibited the oxidation of HSA. Quant. activities were calculated using an original formula based on the changes of the area of the albumin peak. Electrochem. data collected here in a homogeneous medium showed that the anodic potentials of the antioxidants tested are less pos. (ascorbic acid, chlorogenic acid and cysteine) or similar (α- **lipoic acid**)

compared with those of the aromatic residues (tryptophan and tyrosine) of HSA oxidized by XOCl. However, as expected, carnosine, glutathione and S-methylglutathione were inactive at a glassy-carbon, gold or **platinum** electrode.

RE.CNT 24 THERE ARE 24 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 5 OF 11 CAPLUS COPYRIGHT 2004 ACS on STN
AN 2001:866492 CAPLUS
DN 136:16034
TI Reactive oxygen species, antioxidants, and the mammalian thioredoxin system
AU Nordberg, Jonas; Arner, Elias S. J.
CS Department of Medical Biochemistry and Biophysics, Karolinska Institute, Medical Nobel Institute for Biochemistry, Stockholm, Swed.
SO Free Radical Biology & Medicine (2001), 31(11), 1287-1312
CODEN: FRBMEH; ISSN: 0891-5849
PB Elsevier Science Inc.
DT Journal; General Review
LA English
AB A review. Reactive oxygen species (ROS) are known mediators of intracellular signaling cascades. Excessive production of ROS may, however, lead to oxidative stress, loss of cell function, and ultimately apoptosis or necrosis. A balance between oxidant and antioxidant intracellular systems is hence vital for cell function, regulation, and adaptation to diverse growth conditions. Thioredoxin reductase (TrxR) in conjunction with thioredoxin (Trx) is a ubiquitous oxidoreductase system with antioxidant and redox regulatory roles. In mammals, extracellular forms of Trx also have cytokine-like effects. Mammalian TrxR has a highly reactive active site selenocysteine residue resulting in a profound reductive capacity, reducing several substrates in addition to Trx. Due to the reactivity of TrxR, the enzyme is inhibited by many clin. used electrophilic compds. including nitrosoureas, aurothioglucose, **platinum** compds., and retinoic acid derivs. The properties of TrxR in combination with the functions of Trx position this system at the core of cellular thiol redox control and antioxidant defense. In this review, the authors focus on the reactions of the Trx system with ROS mols. and different cellular antioxidant enzymes. The authors summarize the TrxR-catalyzed regeneration of several antioxidant compds., including ascorbic acid (vitamin C), selenium-containing substances, **lipoic acid**, and ubiquinone (Q10). The general cellular effects of TrxR inhibition are also discussed. Dinitrohalobenzenes constitute a unique class of immunostimulatory TrxR inhibitors and the authors consider the immunomodulatory effects of dinitrohalobenzene compds. in view of their reactions with the Trx system.

RE.CNT 299 THERE ARE 299 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 6 OF 11 CAPLUS COPYRIGHT 2004 ACS on STN
AN 2000:365344 CAPLUS
DN 133:99527
TI Dose-dependent protection by **lipoic acid** against cisplatin-induced nephrotoxicity in rats: antioxidant defense system
AU Somani, Satu M.; Husain, Kazim; Whitworth, Craig; Trammell, Gary L.; Malafa, Mokenge; Rybak, Leonard P.
CS Department of Pharmacology, Southern Illinois University School of Medicine, Springfield, IL, 62794-9629, USA
SO Pharmacology & Toxicology (Copenhagen) (2000), 86(5), 234-241
CODEN: PHTOEH; ISSN: 0901-9928
PB Munksgaard International Publishers Ltd.
DT Journal
LA English

AB This study was designed to investigate the role of graded doses of **lipoic acid** pretreatment against cisplatin-induced nephrotoxicity. Male Wistar rats were divided into six groups and treated as follows: 1) vehicle (saline) control; 2) cisplatin (16 mg/kg, i.p.); 3) **lipoic acid** (100 mg/kg, i.p.); 4) cisplatin plus **lipoic acid** (25 mg/kg); 5) cisplatin plus **lipoic acid** (50 mg/kg) and 6) cisplatin plus **lipoic acid** (100 mg/kg). Rats were sacrificed three days after treatment, and plasma as well as kidneys were isolated and analyzed. Plasma creatinine increased (677% of control) following cisplatin administration alone which was decreased by **lipoic acid** in a dose-dependent manner. Cisplatin-treated rats showed a depletion of renal glutathione (GSH), increased oxidized GSH and decreased GSH/GSH oxidized ratio (62%, 166% and 62% of control), resp. which were restored with **lipoic acid** pretreatment. Renal superoxide dismutase, catalase, glutathione peroxidase (GSH peroxidase) and glutathione reductase activities decreased (62%, 75%, 62% and 80% of control), resp., and malondialdehyde content increased (204% of control) following cisplatin administration, which were restored with increasing doses of **lipoic acid**. The renal **platinum** concentration increased following cisplatin administration, which was possibly decreased by chelation with **lipoic acid**. The data suggest that the graded doses of **lipoic acid** effectively prevented a decrease in renal antioxidant defense system and prevented an increase in lipid peroxidn., **platinum** content and plasma creatinine concns. in a dose-dependent manner.

RE.CNT 60 THERE ARE 60 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 7 OF 11 CAPLUS COPYRIGHT 2004 ACS on STN
AN 2000:291025 CAPLUS
DN 132:308192
TI Preparation of **lipoic acid** derivatives as antitumor agents
IN Bingham, Paul M.; Zachar, Zuzana
PA The Research Foundation of State University of New York, USA
SO PCT Int. Appl., 69 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2000024734	A1	20000504	WO 1999-US25140	19991026
	W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	EP 1124820	A1	20010822	EP 1999-956698	19991026
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	BR 9914789	A	20011002	BR 1999-14789	19991026
	US 6331559	B1	20011218	US 1999-427477	19991026
	JP 2002528446	T2	20020903	JP 2000-578304	19991026
	US 2002107234	A1	20020808	US 2001-962372	20010924
PRAI	US 1998-105628P	P	19981026		
	US 1999-427477	A3	19991026		

WO 1999-US25140 W 19991026
OS MARPAT 132:308192
AB This invention relates to the identification of a novel class of therapeutic agents which selectively target and kill tumor cells and certain other types of diseased cells, and to compns. comprising **lipoic acid** derivs. which poison the pyruvate dehydrogenase complex specifically in such cells. This invention also provides for methods of using therapeutically effective amts. of the **lipoic acid** derivs. for the treatment of cancer and other diseases. The **lipoic acid** derivs. described herein have a wide range of preventive and therapeutic applications. In an experiment using mice with melanoma, one group of mice was dosed with 6,8-bisbenzoylmercaptooctanoic acid (at 100 mg/kg) in 10% ethanol; the control group was dosed with 10% ethanol; mice treated with 6,8-bisbenzoylmercaptooctanoic acid had reduced tumor number and mass - less than 30% to 50% as much mass as control.
RE.CNT 17 THERE ARE 17 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 8 OF 11 CAPLUS COPYRIGHT 2004 ACS on STN
AN 1999:510986 CAPLUS
DN 131:126713
TI Synergistic biocidal activity of ternary complexes of negatively charged biocides, transition metal ions, and neutral chelators
IN Zhu, Benjhan; Schechtman, Svetlana; Chevion, Mordehai
PA Yissum Research Development Company of the Hebrew University of Jerusalem, Israel; Mcinnis, Patricia, G.
SO PCT Int. Appl., 21 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 9939575	A2	19990812	WO 1999-US2783	19990209
W: AU, CA, IL, JP, SD				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
US 6426093	B1	20020730	US 1999-247282	19990209
PRAI US 1998-74039P	P	19980209		

AB A biocidal composition composed of a ternary complex of a neg.-charged biocide, a transition metal ion and chelator has synergistic biocidal effects, as compared with a composition of each of the components alone. The neg. charged biocide is chlorophenol, nitrophenol, chlorophenoxyacetic acid, etc. The chelator is preferably a neutral or pos.-charged chelator, such as 1,10-phenanthroline, 2,2'-bipyridyl, 2,2'-biquinoline,etc. The ternary complex may be used for killing or inhibiting the growth of living cells, bacteria, fungi, etc..

L4 ANSWER 9 OF 11 CAPLUS COPYRIGHT 2004 ACS on STN
AN 1992:520336 CAPLUS
DN 117:120336
TI Preparation and characterization of modified electrode by self-assembling ferrocene derivative
AU Tsutsumi, Hiromori; Furumoto, Shozo; Morita, Masayuki; Matsuda, Yoshiharu
CS Fac. Eng., Yamaguchi Univ., Ube, 755, Japan
SO Journal of the Electrochemical Society (1992), 139(6), 1522-5
CODEN: JESOAN; ISSN: 0013-4651
DT Journal
LA English
AB Ferrocenylmethyl-1,2-dithiolane-3-pentanoate, which can be used to modify a Au electrode surface, was prepared by a condensation reaction with

hydroxymethylferrocene and 1,2-dithiolane-3-pentanoic acid (D,L-α-**lipoic acid**). The condensation product has a 1,2-dithiolane ring which adheres to Au surfaces and a ferrocenyl group which is a redox site. The ferrocene rings on the modified electrode were electroactive in both MeCN and aqueous media.

L4 ANSWER 10 OF 11 CAPLUS COPYRIGHT 2004 ACS on STN
AN 1992:457576 CAPLUS
DN 117:57576
TI Preparation and characterization of redox active molecular assemblies on microelectrode arrays
AU Frisbie, C. D.; Fritsch-Faules, I.; Wollman, E. W.; Wrighton, M. S.
CS Dep. Chem., Massachusetts Inst. Technol., Cambridge, MA, 02139, USA
SO Thin Solid Films (1992), 210-211(1-2), 341-7
CODEN: THSFAP; ISSN: 0040-6090
DT Journal
LA English
AB Microelectrode arrays, consisting of 6 or 8 individually addressable Au or Pt microelectrodes .apprx.2 μm wide, 50 μm long, and 0.1 μm thick separated by .apprx.2 μm on a Si3N4 substrate, can be modified by immersion into a solution containing mols. having thiol, dithiocarbamate, or disulfide functional groups. The functional groups yield selective modification of the Au or Pt, not the Si3N4, with .apprx.1 monolayer of mol. reagents. Electrochem. and Auger electron spectroscopy (AES) data are summarized to illustrate that the dithiocarbamate functional group can be used to link redox active mols. to Au or Pt surfaces. Results are presented to illustrate that secondary ion mass spectrometry (SIMS) can be used to characterize organic monolayers on the microelectrodes. Preliminary findings are presented showing that the esters of **lipoic acid**, a 5-membered cyclic disulfide, will selectively modify Au surfaces vs. Si3N4, and that the cyclic disulfide will kinetically compete with a linear disulfide for sites on a Au surfaces. In a competition with the linear disulfide, the cyclic disulfide is at least 10-fold more reactive towards Au. Overall, the studies define classes of expts. needed to develop rational approaches to the modification of surfaces using spontaneous self-assembly methods by taking advantage of selective surface coordination chemical of mols. having appropriate functional groups.

L4 ANSWER 11 OF 11 CAPLUS COPYRIGHT 2004 ACS on STN
AN 1991:554162 CAPLUS
DN 115:154162
TI Measurement of biological thiols and disulfides by high-performance liquid chromatography and electrochemical detection of silver mercaptide formation
AU Kuninori, Toyo; Nishiyama, Junko
CS Osaka Women's Univ., Sakai, 590, Japan
SO Analytical Biochemistry (1991), 197(1), 19-24
CODEN: ANBCA2; ISSN: 0003-2697
DT Journal
LA English
AB A rapid and sensitive method is described for the measurement of picomole levels of the biol. thiols glutathione, cysteine, penicillamine, cysteamine, and ergothioneine by a combination of HPLC and electrochem. detection (ECD). The compds. were separated isocratically on a reversed-phase C18 column by ion-pair chromatog. with a mobile phase containing 5 mM acetic acid and 2.5 mM sodium 1-octanesulfonate. After chromatog. separation, the eluate was combined with silver nitrate dissolved in ammonium nitrate buffer at pH 10.5. A **platinum** disc electrode was used at -0.1 V vs. Ag/AgCl to detect the amount of silver ions that had been consumed by the reaction with thiols. For measurement of disulfide, S-sulfonation with sodium sulfite or electroredn. was used to cleave the disulfide, and the thiol anions produced were detected by HPLC-ECD as for the reduced

forms. The method was used to assay thiols and disulfides in biol. materials.